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Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on _____.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-38_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) _1-38_ is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2.   Claims 1-6, 16-17, 21-22, 26-27, 29-34, 36/1-36/6, 36/16-36/17, 36/21-36/22,

36/26-36/27, 36/29-36/34, 37/1-37/6, 37/16-37/17, 37/21-37/22, 37/26-37/27, 37/29-

37/34, 38/1-38/6, 38/16-38/17, 38/21-38/22, 38/26-38/27, and 38/29-38/34 are rejected

under 35 U.S.C. 103(a) as being unpatentable over Sano (US Patent 5,685,002) in view

of Koakutsu (US Patent 6,285,459 B1) and Kristy (US Patent 5,218,455).

Regarding claims 1 and 34: Sano discloses a method comprising a scanning

step to scan a plurality of images (column 4, lines 27-29 of Sano) from a scanner into a

plurality of digital images (column 4, lines 30-33 of Sano), the scanner being connected

to a dedicated computer (figure 1(3) and column 4, lines 27-30 of Sano). The image

processor (figure 1(3) of Sano) is a computer since said image processor comprises a

unit (image combining unit) that processes digital data (figure 1(34) of Sano) and digital

memory (figure 1(32) of Sano) (column 5, lines 49-54 of Sano). While Sano does not

mention specifically that the scanner is connected to the dedicated computer by a first

interface bus, a first interface bus must be included since the digital image data must be

transferred from the scanner to the dedicated computer, which requires some form of digital data bus.

Said method further comprises a processing step to process the plurality of digital images (column 4, lines 28-31 of Sano) and to combine the processed plurality of digital images into a record image (multi-picture image data) (figure 6 and column 4, lines 30-33 of Sano).

Said method further comprises a writing step to write the record image by an image-recorder (figure 1(4) of Sano) to a medium (figure 1(32) and column 4, lines 29-33 of Sano). While Sano does not specifically mention that the image-recorder is connected to the dedicated computer by a second interface bus, a second interface bus must be included since the processed digital image data must be transferred to the medium in order to be recorded, which requires some form of digital data bus.

Sano does not disclose expressly that said plurality of images corresponds to a separate customer order; and the scanning step is repeated, prior to completion of the writing step, to scan a new plurality of images corresponding to a new customer order from the scanner into a new plurality of digital images.

Further regarding claim 34, Sano does not disclose expressly that the record image being passed from the dedicated computer to the image recorder is passed at a constant rate.

Koakutsu discloses that print image data is received (column 4, lines 10-11 of Koakutsu), then stored in a storage unit (column 4, line 12 of Koakutsu), and then sent to the printer to be printed when a print data read request is sent by said printer (column

4, lines 31-36 of Koakutsu). Since the print image data is waiting in the storage unit until said print image data is needed by the printer, then print image data input must occur for one image while a previously processed image is still printing.

Sano and Koakutsu are combinable because they are from the same field of endeavor, namely image data processing and print control. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to queue the plurality of print data in intermediate memory and access said memory as needed as taught by Koakutsu. The motivation for doing so would have been to increase printer throughput and decrease processor burden (column 3, lines 8-11 of Koakutsu).

Further regarding claim 34, Koakutsu discloses storing digital data on a CD-ROM (column 5, lines 38-43 of Koakutsu). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to write the record image, as taught by Sano, to a CD-ROM. The motivation for doing so would have been that a CD-ROM is one of many types of storage media that can store digital data (column 5, lines 43-46 of Koakutsu). Therefore, it would have been obvious to combine Koakutsu with Sano.

Sano in view of Koakutsu does not disclose expressly that each plurality of images corresponds to a separate customer order.

Kristy discloses processing a plurality of images corresponding to a separate customer order (column 5, lines 16-22 of Kristy).

Sano in view of Koakutsu is combinable with Kristy because they are from the same field of endeavor, namely image data processing and print control. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to

process each set of a plurality of images as a separate customer order. The motivation

for doing so would have been to provide a system whereby a customer can obtain

photographic images without the intervention of a skilled technician (column 1, lines 48-

52 of Kristy). Therefore, it would have been obvious to combine Kristy with Sano in

view of Koakutsu to obtain the invention as specified in claims 1 and 34.

Regarding claim 2: Sano discloses performing the steps of scanning (column 4,

lines 27-29 of Sano), processing (column 4, lines 28-33 of Sano), and writing (column 4,

lines 29-33 of Sano) in that particular order, as discussed above in the arguments

regarding claim 1, which are incorporated herein. Therefore, the processing step would

naturally be repeated to process a new plurality of digital images and to combine the

processed new plurality of digital images into a new record image after a scanning step

has been repeated.

Regarding claim 3: Sano discloses performing the steps of scanning (column 4,

lines 27-29 of Sano), processing (column 4, lines 28-33 of Sano), and writing (column 4,

lines 29-33 of Sano) in that particular order, as discussed above in the arguments

regarding claim 1, which are incorporated herein. Therefore, the writing step would

naturally be repeated to write the new record image to a new medium by the image-

recorder. Since the printer inherently must finish printing before anything else can be

printed, the writing step for the new medium image can only be initiated after completion

of the writing step for the previous record image.

Regarding claim 4: Sano does not disclose expressly that each record image is stored in an image-queue prior to being written to each respective medium by the writing step.

Koakutsu discloses that each record image is stored in an image-queue (storage unit) (figure 1(7) and column 4, lines 19-21 of Koakutsu) prior to being written to each respective medium by the writing step (column 4, lines 21-23 of Koakutsu).

Sano and Koakutsu are combinable because they are from the same field of endeavor, namely image data processing and print control. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to store the print data in an image queue before the data is written, as taught by Koakutsu. The motivation for doing so would have been to increase printer throughput and decrease processor burden (column 3, lines 8-11 of Koakutsu). Therefore, it would have been obvious to combine Koakutsu with Sano to obtain the invention as specified in claim 4.

Regarding claim 5: Sano does not disclose expressly that the writing step includes the step of obtaining, from image-queue, the record image to be written to the medium.

Koakutsu discloses that the writing step includes the step of obtaining, from image-queue (storage unit), the record image to be written to the medium (column 4, lines 21-23 of Koakutsu).

Sano and Koakutsu are combinable because they are from the same field of endeavor, namely image data processing and print control. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to obtain the image

data to be printed from the image queue, as taught by Koakutsu. The motivation for doing so would have been to increase printer throughput and decrease processor burden (column 3, lines 8-11 of Koakutsu). Therefore, it would have been obvious to combine Koakutsu with Sano to obtain the invention as specified in claim 5.

Regarding claim 6: Sano does not disclose expressly that the image-queue is represented by an image-queue file.

Koakutsu discloses that the image queue can be represented by thread instructions (column 5, lines 30-35 of Koakutsu) which are stored on a computer-readable storage medium (column 5, lines 36-38 of Koakutsu), and must therefore be stored as a file. The thread instruction files stored on the computer-readable storage medium provide instructions to the CPU that allow the CPU to properly carry out print operations on the image data (column 5, lines 30-38 of Koakutsu), so said files therefore represent the image-queue.

Sano and Koakutsu are combinable because they are from the same field of endeavor, namely image data processing and print control. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to store image queue processing instructions in a file, as taught by Koakutsu. The motivation for doing so would have been to selectively control how the printing of the queued images is performed (column 5, lines 33-38 of Koakutsu). Therefore, it would have been obvious to combine Koakutsu with Sano to obtain the invention as specified in claim 6.

Regarding claim 16: Sano discloses scanning in a plurality of digital images with a scanner (column 4, lines 27-29 of Sano).

Sano in view of Koakutsu does not disclose expressly the step of adjusting each of the plurality of digital images which were scanned in from the scanner.

Kristy discloses adjusting each of the plurality of digital images provided (column 5, lines 26-31 of Kristy).

Sano in view of Koakutsu is combinable with Kristy because they are from the same field of endeavor, namely image data processing and print control. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to provide the capability to adjust each of the plurality of image provided, as taught by Kristy, said images scanned in by the scanner, as taught by Sano. The motivation for doing so would have been to provide a system whereby a customer can obtain photographic images without the intervention of a skilled technician (column 1, lines 48-52 of Kristy). Therefore, it would have been obvious to combine Kristy with Sano in view of Koakutsu to obtain the invention as specified in claim 16.

Further regarding claim 17: Kristy discloses that the adjustment includes cropping (column 5, lines 29-32 of Kristy).

Further regarding claim 21: Kristy discloses that the adjustment includes a color adjustment (column 5, lines 29-33 of Kristy).

Further regarding claim 22: Kristy discloses that the adjustment includes image editing (column 5, lines 29-33 of Kristy). Addition of text, zooming, cropping, and tone and color corrections (column 5, lines 29-33 of Kristy) are all forms of image editing.

Regarding claim 26: Sano does not disclose expressly that the medium is a CD-ROM.

Koakutsu discloses storing digital data on a CD-ROM (column 5, lines 38-43 of Koakutsu).

Sano and Koakutsu are combinable because they are from the same field of endeavor, namely image data processing and print control. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to write the record image, as taught by Sano, to a CD-ROM. The motivation for doing so would have been that a CD-ROM is one of many types of storage media that can store digital data (column 5, lines 43-46 of Koakutsu). Therefore, it would have been obvious to combine Koakutsu with Sano to obtain the invention as specified in claim 26.

Regarding claim 27: Sano does not disclose expressly that the medium is a DVD.

Koakutsu discloses storing digital data on any type of disk media including optical disks (column 5, lines 38-43 of Koakutsu), of which a DVD is a well-known type.

Sano and Koakutsu are combinable because they are from the same field of endeavor, namely image data processing and print control. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to write the record image, as taught by Sano, to a DVD. The motivation for doing so would have been that a DVD is one of many types of storage media that can store digital data (column 5, lines 43-46 of Koakutsu). Therefore, it would have been obvious to combine Koakutsu with Sano to obtain the invention as specified in claim 27.

Regarding claim 29: Sano does not disclose expressly that the medium is a diskette.

Koakutsu discloses storing digital data on a diskette (column 5, lines 38-41 of Koakutsu).

Sano and Koakutsu are combinable because they are from the same field of endeavor, namely image data processing and print control. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to write the record image, as taught by Sano, to a diskette. The motivation for doing so would have been that a diskette is one of many types of storage media that can store digital data (column 5, lines 43-46 of Koakutsu). Therefore, it would have been obvious to combine Koakutsu with Sano to obtain the invention as specified in claim 29.

Regarding claim 30: Sano does not disclose expressly that the medium is a digital mini-disc.

Koakutsu discloses storing digital data on any type of disk media including optical disks (column 5, lines 38-43 of Koakutsu), of which a digital mini-disc is a well-known type.

Sano and Koakutsu are combinable because they are from the same field of endeavor, namely image data processing and print control. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to write the record image, as taught by Sano, to a digital mini-disc. The motivation for doing so would have been that a digital mini-disc is one of many types of storage media that can store digital

data (column 5, lines 43-46 of Koakutsu). Therefore, it would have been obvious to combine Koakutsu with Sano to obtain the invention as specified in claim 30.

Regarding claim 31: Sano does not disclose expressly that the medium is a memory card.

Koakutsu discloses storing digital data on an EPROM, EEPROM or Flash EEPROM (column 5, lines 43-46 of Koakutsu), all of which are types of memory cards.

Sano and Koakutsu are combinable because they are from the same field of endeavor, namely image data processing and print control. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to write the record image, as taught by Sano, to an EPROM, EEPROM or Flash EEPROM. The motivation for doing so would have been that EPROMs, EEPROMs and Flash EEPROMs are some of many types of storage media that can store digital data (column 5, lines 43-46 of Koakutsu). Therefore, it would have been obvious to combine Koakutsu with Sano to obtain the invention as specified in claim 31.

Regarding claim 32: Sano does not disclose expressly that the medium is a memory chip.

Koakutsu discloses storing digital data in ROM or RAM (column 5, lines 43-46 of Koakutsu), both of which are types of memory chips.

Sano and Koakutsu are combinable because they are from the same field of endeavor, namely image data processing and print control. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to write the record image, as taught by Sano, in ROM or RAM. The motivation for doing so would have

been that ROM and RAM are two of many types of storage media that can store digital

data (column 5, lines 43-46 of Koakutsu). Therefore, it would have been obvious to

combine Koakutsu with Sano to obtain the invention as specified in claim 32.

Regarding claim 33: Sano does not disclose expressly that the medium is a

memory storage device.

Koakutsu discloses storing digital data in many different types of memory storage

devices (column 5, lines 40-46 of Koakutsu).

Sano and Koakutsu are combinable because they are from the same field of

endeavor, namely image data processing and print control. At the time of the invention,

it would have been obvious to a person of ordinary skill in the art to write the record

image, as taught by Sano, into a memory storage device. The motivation for doing so

would have been that memory storage devices can store digital data (column 5, lines

43-46 of Koakutsu), which can then be accessed later. Therefore, it would have been

obvious to combine Koakutsu with Sano to obtain the invention as specified in claim 33.

Regarding claims 36/1-36/6, 36/16-36/17, 36/21-36/22, 36/26-36/27 and 36/29-

36/34: Sano discloses a program memory (figure 1(51) of Sano) for storing processing

steps executable to perform the image processing method; and a processor (figure 1(5)

of Sano) for executing the processing steps stored in said memory (column 6, lines 48-

52 of Sano).

Regarding claims 37/1-37/6, 37/16-37/17, 37/21-37/22, 37/26-37/27 and 37/29-

37/34: Sano discloses computer-executable process steps stored on a computer

readable medium (figure 1(51) of Sano), said computer-executable steps comprising

processing steps executable to perform the image processing method (column 6, lines 48-52 of Sano).

Regarding claims 38/1-38/6, 38/16-38/17, 38/21-38/22, 38/26-38/27 and 38/29-38/34: Sano discloses a computer readable medium (figure 1(51) of Sano) which stores computer-executable process steps, said computer-executable steps comprising processing steps executable to perform the image processing method (column 6, lines 48-52 of Sano).

3.   Claims 7, 36/7, 37/7 and 38/7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sano (US Patent 5,685,002) in view of Koakutsu (US Patent 6,285,459 B1), Kristy (US Patent 5,218,455), and Manico (US Patent 5,764,870).

Regarding claim 7: Sano in view of Koakutsu does not disclose expressly the steps of generating a print index file containing a thumbnail representation of each of the plurality of digital images and sending the print index file to a printer to print a corresponding print index.

Kristy discloses generating a print index file containing a thumbnail representation of each of the plurality of digital images (column 4, lines 38-41 of Kristy).

Sano in view of Koakutsu is combinable with Kristy because the same field of endeavor, namely image data processing and print control. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to generate a low-resolution (thumbnail) representation of each of the plurality of digital images, as taught by Kristy. The motivation for doing so would have been to greatly increase the speed

with which a particular file can be located (column 4, lines 55-57 of Kristy). Therefore, it would have been obvious to combine Kristy with Sano in view of Koakutsu.

Sano in view of Koakutsu and Kristy does not disclose expressly sending the print index file to a printer to print a corresponding print index.

Manico discloses sending the print index file to a printer to print a corresponding print index (figure 9a and column 4, lines 60-65 of Manico).

Sano in view of Koakutsu and Kristy is combinable with Manico because they are from the same field of endeavor, namely image data processing and print control. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to print out the print index file, as taught by Manico. The motivation for doing so would have been to be able to quickly identify the contents stored in a set of prints (column 1, lines 10-12 of Manico). Therefore, it would have been obvious to combine Manico with Sano in view of Koakutsu and Kristy to obtain the invention as specified in claim 7.

Regarding claims 36/7: Sano discloses a program memory (figure 1(51) of Sano) for storing processing steps executable to perform the image processing method; and a processor (figure 1(5) of Sano) for executing the processing steps stored in said memory (column 6, lines 48-52 of Sano).

Regarding claims 37/7: Sano discloses computer-executable process steps stored on a computer readable medium (figure 1(51) of Sano), said computer-executable steps comprising processing steps executable to perform the image processing method (column 6, lines 48-52 of Sano).

Regarding claims 38/7: Sano discloses a computer readable medium (figure 1(51) of Sano) which stores computer-executable process steps, said computer-executable steps comprising processing steps executable to perform the image processing method (column 6, lines 48-52 of Sano).

4.　　　Claims 8-10, 36/8-36/10, 37/8-37/10, and 38/8-38/10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sano (US Patent 5,685,002) in view of Koakutsu (US Patent 6,285,459 B1), Kristy (US Patent 5,218,455), Manico (US Patent 5,764,870), and Bellucco (US Patent 5,930,465).

Regarding claim 8: Sano in view of Koakutsu, Kristy and Manico does not disclose expressly that the step of generating a print index file includes sending the print index file to a print queue; and that the step of sending the print index file to the printer includes retrieving a next print index file from the print queue.

Bellucco discloses sending a print file (column 4, lines 23-25 of Bellucco) to a print queue (column 4, lines 46-50 of Bellucco); and retrieving the next print file from the print queue (column 8, lines 11-17 of Bellucco).

Sano in view of Koakutsu, Kristy and Manico is combinable with Bellucco because they are from the same field of endeavor, namely image processing and printing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to send and retrieve files to be printed using a print queue, as taught by Bellucco, said print file being the print index file taught by Manico. The motivation for doing so would have been to be able to process print jobs from many clients (column 2,

lines 44-46 of Bellucco). Therefore, it would have been obvious to combine Bellucco with Sano in view of Koakutsu, Kristy and Manico to obtain the invention as specified in claim 8.

Further regarding claim 9: Bellucco discloses that the print queue is represented by a print queue file (figure 7 and column 5, lines 43-45 of Bellucco).

Regarding claim 10: Sano in view of Koakutsu, Kristy and Manico does not disclose expressly that the print index file is sent to the printer regardless of whether the record image corresponding to the plurality of digital images represented in the print index file has been written to the medium in the writing step.

Bellucco discloses that a job ticket is processed (column 8, lines 52-54 of Bellucco). Then, the corresponding print job is either saved in a print ready format (column 8, lines 55-61 of Bellucco) or not saved (column 8, lines 66-67 of Bellucco). This is shown graphically in figure 10 of Bellucco. After the job ticket is processed (figure 10(132) of Bellucco) it is either saved (figure 10(134→136) of Bellucco) or not saved, wherein the processing returns to querying the remote server (figure 10(134→116) of Bellucco).

Sano in view of Koakutsu, Kristy and Manico is combinable with Bellucco because they are from the same field of endeavor, namely image processing and printing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to be able to select to either save the print file or not save the print file, as taught by Bellucco, said print file being the print index file taught by Manico. Therefore, the print index file would be sent to the printer regardless of whether the record image

corresponding to the plurality of digital images represented in the print index file has been written to the medium in the writing step. The motivation for doing so would have been to permit client rights to be obtained for saving the print job on a server (column 7, lines 33-35 of Bellucco). Therefore, it would have been obvious to combine Bellucco with Sano in view of Koakutsu, Kristy and Manico to obtain the invention as specified in claim 10.

Regarding claims 36/8-36/10: Sano discloses a program memory (figure 1(51) of Sano) for storing processing steps executable to perform the image processing method; and a processor (figure 1(5) of Sano) for executing the processing steps stored in said memory (column 6, lines 48-52 of Sano).

Regarding claims 37/8-37/10: Sano discloses computer-executable process steps stored on a computer readable medium (figure 1(51) of Sano), said computer-executable steps comprising processing steps executable to perform the image processing method (column 6, lines 48-52 of Sano).

Regarding claims 38/8-38/10: Sano discloses a computer readable medium (figure 1(51) of Sano) which stores computer-executable process steps, said computer-executable steps comprising processing steps executable to perform the image processing method (column 6, lines 48-52 of Sano).

5.   Claims 11-14, 36/11-36/14, 37/11-37/14, and 38/11-38/14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sano (US Patent 5,685,002) in view of

Koakutsu (US Patent 6,285,459 B1), Kristy (US Patent 5,218,455), and Fukushima (US

Patent 6,289,416 B1).

Regarding claim 11: Sano in view of Koakutsu and Kristy does not disclose

expressly generating a write status indicator which is used to indicate a success in the

event that the record image is successfully written to the medium, and which is used to

indicate an error in the event that the record image is not successfully written to the

medium.

Fukushima discloses generating a write status indicator which is used to indicate

a success in the event that a digital data file is successfully written to the medium

(column 8, lines 25-30 of Fukushima), and which is used to indicate an error in the

event that the digital data file is not successfully written to the medium (column 8, lines

46-51 of Fukushima).

Sano in view of Koakutsu and Kristy is combinable with Fukushima because they

are from similar problem solving areas, namely successfully storing digital data on a

medium. At the time of the invention, it would have been obvious to a person of

ordinary skill in the art to use an indicator to indicate whether or not a digital data file is

successfully written, as taught by Fukushima, said digital data file being the record

image taught by Sano. The motivation for doing so would have been to be able to

recover from data write errors (column 3, lines 3-10 of Fukushima). Therefore, it would

have been obvious to combine Fukushima with Sano in view of Koakutsu and Kristy to

obtain the invention as specified in claim 11.

Regarding claim 12: Sano in view of Koakutsu and Kristy does not disclose expressly that the writing step is not repeated for a new record image if the write status indicator indicates an error.

Fukushima discloses that the writing step is repeated for the same digital data file if the write status indicator indicates an error (column 8, lines 46-51 of Fukushima) and is therefore not repeated for a new digital data file.

Sano in view of Koakutsu and Kristy is combinable with Fukushima because they are from similar problem solving areas, namely successfully storing digital data on a medium. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to repeat the writing step if there is a write error. The motivation for doing so would have been to be able to recover from data write errors (column 3, lines 3-10 of Fukushima). Therefore, it would have been obvious to combine Fukushima with Sano in view of Koakutsu and Kristy to obtain the invention as specified in claim 12.

Regarding claim 13: Sano in view of Koakutsu and Kristy does not disclose expressly that the writing step is repeated for the same record image if the write status indicator indicates an error.

Fukushima discloses that the writing step is repeated for the same digital data file if the write status indicator indicates an error (column 8, lines 46-51 of Fukushima).

Sano in view of Koakutsu and Kristy is combinable with Fukushima because they are from similar problem solving areas, namely successfully storing digital data on a medium. At the time of the invention, it would have been obvious to a person of

ordinary skill in the art to repeat the writing step if there is a write error. The motivation

for doing so would have been to be able to recover from data write errors (column 3,

lines 3-10 of Fukushima). Therefore, it would have been obvious to combine

Fukushima with Sano in view of Koakutsu and Kristy to obtain the invention as specified

in claim 13.

Regarding claim 14: Sano in view of Koakutsu and Kristy does not disclose

expressly that the record image is compared to the medium at the end of the writing

step to determine if the record image is successfully written to the medium.

Fukushima discloses that the digital data file is compared to the medium at the

end of the writing step (column 7, lines 37-43 of Fukushima) to determine if the digital

data file is successfully written to the medium (column 8, lines 11-14 of Fukushima).

Sano in view of Koakutsu and Kristy is combinable with Fukushima because they

are from similar problem solving areas, namely successfully storing digital data on a

medium. At the time of the invention, it would have been obvious to a person of

ordinary skill in the art to verify that the digital data file is written without errors, as

taught by Fukushima, said digital data file being the record image taught by Sano. The

motivation for doing so would have been to be able to recover from data write errors

(column 3, lines 3-10 of Fukushima). Therefore, it would have been obvious to combine

Fukushima with Sano in view of Koakutsu and Kristy to obtain the invention as specified

in claim 14.

Regarding claims 36/11-36/14: Sano discloses a program memory (figure

1(51) of Sano) for storing processing steps executable to perform the image processing

method; and a processor (figure 1(5) of Sano) for executing the processing steps stored

in said memory (column 6, lines 48-52 of Sano).

Regarding claims 37/11-37/14: Sano discloses computer-executable process

steps stored on a computer readable medium (figure 1(51) of Sano), said computer-

executable steps comprising processing steps executable to perform the image

processing method (column 6, lines 48-52 of Sano).

Regarding claims 38/11-38/14: Sano discloses a computer readable medium

(figure 1(51) of Sano) which stores computer-executable process steps, said computer-

executable steps comprising processing steps executable to perform the image

processing method (column 6, lines 48-52 of Sano).

6.   Claims 18-20, 36/18-36/20, 37/18-37/20, and 38/18-38/20 are rejected under 35

U.S.C. 103(a) as being unpatentable over Sano (US Patent 5,685,002) in view of

Koakutsu (US Patent 6,285,459 B1), Kristy (US Patent 5,218,455), and Bouton (*Inside*

Adobe® Photoshop® 5, by Gary David Bouton and Barbara Bouton, copyright 1998,

New Riders Publishing).

Regarding claim 18: Sano in view of Koakutsu and Kristy does not disclose

expressly that the adjustment includes rotating.

Bouton discloses editing an image by rotating (page 555, lines 4-9 of Bouton).

Sano in view of Koakutsu and Kristy is combinable with Bouton because they are

from the same field of endeavor, namely image processing. At the time of the invention,

it would have been obvious to a person of ordinary skill in the art to adjust the image by

rotating. The motivation for doing so would have been to correct for tilt in an image (page 555, lines 1-2 of Bouton). Therefore, it would have been obvious to combine Bouton with Sano in view of Koakutsu and Kristy to obtain the invention as specified in claim 18.

Regarding claim 19: Sano in view of Koakutsu and Kristy does not disclose expressly that the adjustment includes a contrast adjustment.

Bouton discloses editing an image by a contrast adjustment (page 394, line 10 to page 395, line 4 of Bouton).

Sano in view of Koakutsu and Kristy is combinable with Bouton because they are from the same field of endeavor, namely image processing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to adjust the image by a contrast adjustment. The motivation for doing so would have been to remove fuzziness in an image (page 394, lines 5-7 of Bouton). Therefore, it would have been obvious to combine Bouton with Sano in view of Koakutsu and Kristy to obtain the invention as specified in claim 19.

Regarding claim 20: Sano in view of Koakutsu and Kristy does not disclose expressly that the adjustment includes a sharpness adjustment.

Bouton discloses editing an image by a sharpness adjustment (figure 13.15 and page 395, lines 1-8 of Bouton).

Sano in view of Koakutsu and Kristy is combinable with Bouton because they are from the same field of endeavor, namely image processing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to adjust the image by

a contrast adjustment. The motivation for doing so would have been to remove
fuzziness in an image (page 394, lines 5-7 of Bouton). Therefore, it would have been
obvious to combine Bouton with Sano in view of Koakutsu and Kristy to obtain the
invention as specified in claim 20.

Regarding claims 36/18-36/20: Sano discloses a program memory (figure
1(51) of Sano) for storing processing steps executable to perform the image processing
method; and a processor (figure 1(5) of Sano) for executing the processing steps stored
in said memory (column 6, lines 48-52 of Sano).

Regarding claims 37/18-37/20: Sano discloses computer-executable process
steps stored on a computer readable medium (figure 1(51) of Sano), said computer-
executable steps comprising processing steps executable to perform the image
processing method (column 6, lines 48-52 of Sano).

Regarding claims 38/18-38/20: Sano discloses a computer readable medium
(figure 1(51) of Sano) which stores computer-executable process steps, said computer-
executable steps comprising processing steps executable to perform the image
processing method (column 6, lines 48-52 of Sano).

7.   Claims 15, 23, 28, 36/15, 36/23, 36/28, 37/15, 37/23, 37/28, 38/15, 38/23, and
38/28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sano (US Patent
5,685,002) in view of Koakutsu (US Patent 6,285,459 B1), Kristy (US Patent 5,218,455)
and well-known prior art.

Regarding claim 15: Sano in view of Koakutsu and Kristy does not disclose

expressly that the first interface bus is a SCSI interface and the second interface is an

IDE interface.

Official Notice is taken that a SCSI interface and an IDE interface are old, well-

known and expected in the art. It would have been obvious to one of ordinary skill in

the art at the time of the invention to use a SCSI interface for the first interface bus and

an IDE interface for the second interface bus since SCSI interfaces are commonly used

to connect internal computer drives and IDE interfaces are commonly used to connect

devices such as CD-ROM drives.

Regarding claim 23: The arguments regarding claim 16 are incorporated

herein. Kristy discloses that the thumbnail representation of each of the plurality of

digital images is displayed (column 4, lines 42-46 of Kristy), on a monitor (figure 1(16)

and column 5, lines 16-17 of Kristy) connected to the computer (column 3, lines 28-32

of Kristy). Each digital image is adjusted based on a menu-driven user selection

(column 5, lines 29-31 of Kristy).

Sano in view of Koakutsu and Kristy does not disclose expressly that each digital

image is adjusted by a pointing device connected to the computer.

Official Notice is taken that a pointing device used for choosing selections and

adjustments, such as a mouse, connected to a computer is old, well-known and

expected in the art. It would have been obvious to one of ordinary skill in the art at the

time of the invention to use a pointing device connected to a computer to adjust the

digital image since a pointing device is a common and convenient means to input data into a computer.

Regarding claim 28: Sano in view of Koakutsu and Kristy does not disclose expressly that the medium is a digital tape.

Official Notice is taken that using a digital tape to store digital data is old, well-known and expected in the art. It would have been obvious to one of ordinary skill in the art at the time of the invention to write the record image onto a digital tape since a digital tape is a common and convenient means to store and later reaccess digital data.

Regarding claims 36/15, 36/23 and 36/28: Sano discloses a program memory (figure 1(51) of Sano) for storing processing steps executable to perform the image processing method; and a processor (figure 1(5) of Sano) for executing the processing steps stored in said memory (column 6, lines 48-52 of Sano).

Regarding claims 37/15, 37/23 and 37/28: Sano discloses computer-executable process steps stored on a computer readable medium (figure 1(51) of Sano), said computer-executable steps comprising processing steps executable to perform the image processing method (column 6, lines 48-52 of Sano).

Regarding claims 38/15, 38/23 and 38/28: Sano discloses a computer readable medium (figure 1(51) of Sano) which stores computer-executable process steps, said computer-executable steps comprising processing steps executable to perform the image processing method (column 6, lines 48-52 of Sano).

8.   Claims 24, 36/24, 37/24 and 38/24 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Sano (US Patent 5,685,002) in view of Koakutsu (US Patent

6,285,459 B1), Kristy (US Patent 5,218,455) and Hoyt (US Patent 6,085,195).

Regarding claim 24: Sano in view of Koakutsu and Kristy does not disclose

expressly that the scanning step and processing step are performed in a second

computer which is connected to the dedicated computer via a network, and the writing

step is performed in the dedicated computer.

Hoyt discloses a second computer (remote kiosk) (figure 3(126) of Hoyt) which

performs the steps of scanning (column 8, lines 14-17 of Hoyt) and processing (column

8, lines 27-30 of Hoyt) and is connected to a dedicated computer (web server) via a

network (column 9, lines 5-6 and lines 16-18 of Hoyt); and the writing step is performed

in said dedicated computer (column 9, lines 3-10 of Hoyt).

Sano in view of Koakutsu and Kristy is combinable with Hoyt because they are

from the same field of endeavor, namely image data processing. At the time of the

invention, it would have been obvious to a person of ordinary skill in the art to scan and

process the image on a second, remote computer and write the data onto the dedicated

computer. The motivation for doing so would have been to be able to store the image

data on a central server, such as a web server (column 9, lines 8-12 of Hoyt), and thus

be able to access the image data remotely. Therefore, it would have been obvious to

combine Hoyt with Sano in view of Koakutsu and Kristy to obtain the invention as

specified in claim 24.

Regarding claims 36/24: Sano discloses a program memory (figure 1(51) of

Sano) for storing processing steps executable to perform the image processing method;

and a processor (figure 1(5) of Sano) for executing the processing steps stored in said

memory (column 6, lines 48-52 of Sano).

Regarding claims 37/24: Sano discloses computer-executable process steps

stored on a computer readable medium (figure 1(51) of Sano), said computer-

executable steps comprising processing steps executable to perform the image

processing method (column 6, lines 48-52 of Sano).

Regarding claims 38/24: Sano discloses a computer readable medium (figure

1(51) of Sano) which stores computer-executable process steps, said computer-

executable steps comprising processing steps executable to perform the image

processing method (column 6, lines 48-52 of Sano).

9.   Claims 25, 36/25, 37/25, and 38/25 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Sano (US Patent 5,685,002) in view of Koakutsu (US Patent

6,285,459 B1), Kristy (US Patent 5,218,455) and Doerr (US Patent 5,949,411).

Regarding claim 25: Sano in view of Koakutsu and Kristy does not disclose

expressly that a second computer is connected to the dedicated computer, and wherein

the scanning step and the processing step are performed in the dedicated computer

and the writing step is performed in the second computer.

Doerr discloses a second computer (figure 2(K-1) of Doerr) that is connected to

the dedicated (host) computer (figure 2(11) of Doerr) (column 4, line 65 to column 5, line

4 of Doerr). The scanning step (column 6, lines 11-16 of Doerr) and processing step

are performed in the dedicated computer (column 6, lines 16-21 of Doerr). The writing

step is performed in the second computer (column 6, lines 22-30 of Doerr).

Sano in view of Koakutsu and Kristy is combinable with Doerr because they are

from the same field of endeavor, namely image processing and printing. At the time of

the invention, it would have been obvious to a person of ordinary skill in the art to scan

and process the image data on the dedicated computer and write the image data on the

second computer. The motivation for doing so would have been to be able to provide

image data from a centralized database (column 6, lines 22-26 of Doerr). Therefore, it

would have been obvious to combine Doerr with Sano in view of Koakutsu and Kristy to

obtain the invention as specified in claim 25.

Regarding claims 36/25: Sano discloses a program memory (figure 1(51) of

Sano) for storing processing steps executable to perform the image processing method;

and a processor (figure 1(5) of Sano) for executing the processing steps stored in said

memory (column 6, lines 48-52 of Sano).

Regarding claims 37/25: Sano discloses computer-executable process steps

stored on a computer readable medium (figure 1(51) of Sano), said computer-

executable steps comprising processing steps executable to perform the image

processing method (column 6, lines 48-52 of Sano).

Regarding claims 38/25: Sano discloses a computer readable medium (figure

1(51) of Sano) which stores computer-executable process steps, said computer-

executable steps comprising processing steps executable to perform the image processing method (column 6, lines 48-52 of Sano).

10.   Claims 35, 36/35, 37/35, and 38/35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sano (US Patent 5,685,002) in view of Koakutsu (US Patent 6,285,459 B1) and Kristy (US Patent 5,218,455).

Regarding claim 35: Sano discloses a method comprising a scanning step to scan a plurality of images (column 4, lines 27-29 of Sano) from a scanner into a plurality of digital images (column 4, lines 30-33 of Sano), the scanner being connected to a dedicated computer (figure 1(3) and column 4, lines 27-30 of Sano). The image processor (figure 1(3) of Sano) is a computer since said image processor comprises a unit (image combining unit) that processes digital data (figure 1(34) of Sano) and digital memory (figure 1(32) of Sano) (column 5, lines 49-54 of Sano). While Sano does not mention specifically that the scanner is connected to the dedicated computer by a first interface bus, a first interface bus must be included since the digital image data must be transferred from the scanner to the dedicated computer, which requires some form of digital data bus.

Said method further comprises a processing step to process the plurality of digital images (column 4, lines 28-31 of Sano) and to combine the processed plurality of digital images into a record image (multi-picture image data) (figure 6 and column 4, lines 30-33 of Sano).

Said method further comprises a writing step to write the record image by an image-recorder (figure 1(4) of Sano) to a medium (figure 1(32) and column 4, lines 29-33 of Sano). While Sano does not specifically mention that the image-recorder is connected to the dedicated computer by a second interface bus, a second interface bus must be included since the processed digital image data must be transferred to the medium in order to be recorded, which requires some form of digital data bus.

Sano does not disclose expressly that the record image is a CD-ROM image and the image recorder is a CD-recorder; that said plurality of images corresponds to a separate customer order; an adjusting step to adjust each of the plurality of digital images which were scanned in from the scanner; that the scanning step is repeated, prior to completion of the CD-writing step, to scan a new plurality of images corresponding to a new customer order from the scanner into a new plurality of digital images; that the processing step is repeated to process the new plurality of digital images and to combine the processed new plurality of digital images into a new CD-ROM image; and that the CD-writing step is repeated to write the new CD-ROM image to a new CD-ROM placed in the CD-recorder after completion of the CD-writing step for the previous CD-ROM image.

Koakutsu discloses that print image data is received (column 4, lines 10-11 of Koakutsu), then stored in a storage unit (column 4, line 12 of Koakutsu), and then sent to the printer to be printed when a print data read request is sent by said printer (column 4, lines 31-36 of Koakutsu). Since the print image data is waiting in the storage unit

until said print image data is needed by the printer, then print image data input must occur for one image while a previously processed image is still printing.

Koakutsu further discloses storing digital data on a CD-ROM (column 5, lines 38-43 of Koakutsu). Storing data on a CD-ROM inherently requires a CD-recorder.

Sano and Koakutsu are combinable because they are from the same field of endeavor, namely image data processing and print control. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to queue the plurality of print data in intermediate memory and access said memory as needed as taught by Koakutsu, thus causing the scanning step taught by Sano to repeat before the writing step is complete. Furthermore, since Sano teaches performing the steps of scanning (column 4, lines 27-29 of Sano), processing (column 4, lines 28-33 of Sano), and writing (column 4, lines 29-33 of Sano) in that particular order, the processing step and the writing step would naturally be repeated to process a new plurality of digital images and to combine the processed new plurality of digital images into a new record image after a scanning step has been repeated and then write the new record image onto a medium. The motivation for doing so would have been to increase printer throughput and decrease processor burden (column 3, lines 8-11 of Koakutsu).

Further, at the time of the invention, it would have been obvious to a person of ordinary skill in the art to write the record image, as taught by Sano, to a CD-ROM with a CD-recorder, as taught by Koakutsu. The motivation for doing so would have been that a CD-ROM is one of many types of storage media that can store digital data

(column 5, lines 43-46 of Koakutsu). Therefore, it would have been obvious to combine Koakutsu with Sano.

Sano in view of Koakutsu does not disclose expressly that each plurality of images corresponds to a separate customer order; and the step of adjusting each of the plurality of digital images which were scanned in from the scanner.

Kristy discloses adjusting each of the plurality of digital images provided (column 5, lines 26-31 of Kristy).

Kristy further discloses processing a plurality of images corresponding to a separate customer order (column 5, lines 16-22 of Kristy).

Sano in view of Koakutsu is combinable with Kristy because they are from the same field of endeavor, namely image data processing and print control. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to process each set of a plurality of images as a separate customer order. The motivation for doing so would have been to provide a system whereby a customer can obtain photographic images without the intervention of a skilled technician (column 1, lines 48-52 of Kristy). Furthermore, at the time of the invention, it would have been obvious to a person of ordinary skill in the art to provide the capability to adjust each of the plurality of image provided, as taught by Kristy, said images scanned in by the scanner, as taught by Sano. The motivation for doing so would have been to provide a system whereby a customer can obtain photographic images without the intervention of a skilled technician (column 1, lines 48-52 of Kristy). Therefore, it would have been

obvious to combine Kristy with Sano in view of Koakutsu to obtain the invention as specified in claim 35.

Regarding claims 36/35: Sano discloses a program memory (figure 1(51) of Sano) for storing processing steps executable to perform the image processing method; and a processor (figure 1(5) of Sano) for executing the processing steps stored in said memory (column 6, lines 48-52 of Sano).

Regarding claims 37/35: Sano discloses computer-executable process steps stored on a computer readable medium (figure 1(51) of Sano), said computer-executable steps comprising processing steps executable to perform the image processing method (column 6, lines 48-52 of Sano).

Regarding claims 38/35: Sano discloses a computer readable medium (figure 1(51) of Sano) which stores computer-executable process steps, said computer-executable steps comprising processing steps executable to perform the image processing method (column 6, lines 48-52 of Sano).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A Thompson whose telephone number is 703-305-6329. The examiner can normally be reached on 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K Moore can be reached on 703-308-7452. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

James A. Thompson
Examiner
Art Unit 2624

JAT
July 30, 2004

THOMAS D.
TOMMY LEE
PRIMARY EXAMINER